population breakdown, survival rates, average costs of triple and quadruple HAART (Highly Active Antiretroviral Therapy) therapy, inpatient, outpatient care costs—HIV related HRG costs and excess cost ratio due to late presentation. Study follows standard good modeling practices by discounting, adjusting for survival, and considering multiple time horizons for analyses. UK data sources include: BHIVA, NHS, HPA and SOPHID. **RESULTS:** From 1995–2010 literature review yielded 126 publications related to late detection, of which 18 were included in our study design. The number of publications has rapidly increased over the last 12 months. Preliminary results suggest that 10% of HIV detection shift from late to early detection (2655 patients or 3.2% of Late HIV detection) would result in £20.3 million conservative savings just in the first year (keeping index multiplier scalar for HIV spread rate at zero). Over 5-year term, such annual shift would result in 708.25 life-years saved or £14.2 million in additional savings. **CONCLUSIONS:** Enhanced testing to achieve earlier detection and initiation on HAART could potentially reduce overall costs of HIV medical care. Further research is required to determine additional budgetary implications of HIV comorbidity patterns.

PIN27

COST-EFFECTIVENESS ANALYSIS OF HPV VACCINATION AGAINST CERVICAL CANCER IN YOUNG ADULT WOMEN IN ITALY

La Torre G[1], Gabutti G[2], Cristoforoni P[3], Bonanni P[4], Amunni G[4], Costa S[5], Capri S[6]
[1]Sapienza University of Rome, Rome, Italy; [2]University of Ferrara, Ferrara, Italy; [3]National Institute for Cancer Research, IST Genova, Genova, Italy; [4]University of Florence, Florence, Italy; [5]St. Orsola-Malpighi University Hospital, Bologna, Italy; [6]Cattaneo-LIUC University, Castellanza, Varese, Italy

OBJECTIVES: Human papillomavirus (HPV) has been implicated as a causal factor in cervical cancer (CC), the second most common cancer among women worldwide. Prophylactic vaccination against HPV-16/18 has been shown to be highly effective in preventing HPV related infections and pre-cancerous lesions. The aim of this study was to determine the potential clinical and economic impact of combining CC screening programme with HPV vaccination programme with the bivalent HPV-16/18 vaccine in women aged 25 (when CC screening starts) compared to screening alone. **METHODS:** A Markov cohort model was adapted to the Italian setting. The model replicates the HPV infection natural history leading to CC and includes the effect of screening and vaccination. Based on the latest results of the PATRICIA clinical trial for the bivalent vaccine, the vaccine efficacy includes cross-protection against non-vaccine HPV types 31/33/35/39/45/51/52/56/58/59. The vaccine efficacy in naïve girls and HPV-exposed women (>17-years old) was differentiated. Lifetime protection and 90% vaccination coverage were assumed. Costing was analyzed from the perspective of the Italian health care system. Main outcomes are lifetime costs, QALYs, CC cases, deaths and ICER. Both costs and effects were discounted at 3% annually to calculate the ICER. **RESULTS:** The model shows that, compared to screening alone, vaccinating a single cohort of 330,000 women aged 25 would prevent over a lifetime 696 CC cases and 316 CC deaths (undiscounted) of which 131 and 59 respectively are due to cross-protection, with a discounted ICER of €33,918 per QALY gained. The ICER remains under the cost-effective threshold defined by the WHO (between 1 and 3xGDP/capita). **CONCLUSIONS:** Under the assumptions of the model, extending vaccination to young adult women post-HPV exposure could lead to a substantial reduction in CC and remains cost-effective in Italy compared with screening alone. Cross-protection would play an important role in this reduction.

PIN28

IMPACT OF METHODOLOGICAL CHOICES AND ASSUMPTIONS IN ECONOMIC EVALUATIONS OF ROTAVIRUS VACCINATION

Millier A[1], Aballea S[1], Petrou S[2], Quilici S[3]
[1]Creativ Ceutical, Paris, France; [2]University of Oxford, Oxford, England; [3]Sanofi Pasteur MSD, Lyon, France

OBJECTIVES: Rotavirus is the leading cause of severe gastroenteritis in children under 5 years. Two vaccines are currently available: RotaTeq® (Merck/Sanofi Pasteur MSD) and Rotarix® (GSK). Published economic models on rotavirus vaccination have produced contradicting results. We reviewed and critically appraised existing economic models. **METHODS:** The literature search covered worldwide cost-effectiveness models of RotaTeq® and Rotarix® published or presented at conferences until October 2009. We extracted information on model structures, input data (epidemiology, vaccine efficacy, utilities, vaccination costs) and results. **RESULTS:** We identified 44 publications referring to distinct cost-effectiveness analyses.18 used cost per QALY as primary outcome, providing 22 incremental cost-utility ratios (ICURs) for high-income countries. Thirteen ICURs came from health authorities and 9 from manufacturers. While some European studies predicted cost-savings from societal perspective, the ICUR was estimated at up €160,000 per QALY for the UK, from NHS perspective. 5 of 13 analyses from health authorities reported ICURs below €30,000 per QALY gained, compared to 7 of 9 studies from manufacturers. There were many differences between models, such as perspective, epidemiological inputs, vaccine efficacy and vaccination costs. However differences in results were mainly driven by assumptions related to estimation of QALYs: utility values, duration of symptoms, inclusion of quality of life burden for caregivers and for cases without medical attention. **CONCLUSIONS:** Results of cost-effectiveness analyses are highly variable due to uncertainty surrounding epidemiological inputs, and most importantly to assumptions for deriving QALYs. Different choices were attributable to different value judgments, and to the difficulty of measuring and valuing quality of life in children, which lead to a situation where neither manufacturers nor health authorities obtained valid utilities. There is currently no valid reference case for cost-utility analyses in paediatrics. More open communication and expertise sharing between authorities and manufacturers could lead to more reliable analyses.

PIN29

A DYNAMIC MODEL TO EVALUATE THE COST-EFFECTIVENESS OF 10-VALENT PNEUMOCOCCAL CONJUGATE VACCINE IN TAIWAN

Chang CJ[1], Wu BS[2], Wu CL[1], Lin YJ[1], Fann SJ[3]
[1]Chang Gung University, Taoyuan, Taiwan; [2]National Yang-Ming University, Taipei, Taiwan; [3]Academia Sinica, Taipei, Taiwan

OBJECTIVES: Streptococcus pneumonia is associated with two invasive diseases (meningitis and bacteremia) and non-invasive disease (pneumococcal pneumonia), which has caused high morbidity and mortality in infants and the elderly in Taiwan. a cost-effectiveness analysis of pneumococcal conjugate vaccine (PCV 10) in Taiwan was conducted using transmission-dynamic model. **METHODS:** As static pharmacoeconomic model fails to account for vaccination-induced herd-immunity, we developed an age-structured multi-compartment dynamic model to estimate both economic and clinical impact of universal PCV10 vaccination over 10-year time horizon under health care system's perspective in Taiwan. Model parameters such as economic and clinical burden of pneumococcal diseases in Taiwanese population, vaccine efficacy, utilities and demographic parameters were captured by retrospective population-based National Health Insurance Reimbursement Database (NHIRD), published sources, unpublished data, and assumptions made in consultation with clinical experts. Univariate sensitivity analyses were conducted to test the robustness of model parameters. **RESULTS:** Assuming a four-dose schedule and 90% of vaccination coverage for both vaccines, universal infant vaccination with PCV10 would prevent 133 cases of IPD, 122,476 cases of pneumococcal pneumonia and 3,857 deaths, an equivalent of 93,393 life-years and leads to a net medical cost savings of NT$ 6,047.4 million, compared to no vaccination. At the current proposed price of NT$2,700 for PCV10, the incremental cost-effectiveness ratio (ICER) is expected to be cost-effective with NT$106,362 (US$3,324) per life-year gained. The program's cost-effectiveness results are highly sensitive to the vaccine price and number of doses while not sensitive to uncertainty in disease incidence and costs of treatment. **CONCLUSIONS:** Universal pediatric PCV10 vaccination in Taiwan is estimated to have considerable impact on reducing the burden of pneumococcal diseases and expected to be cost-effective in payer's perspective compared to no vaccination.

PIN30

ECONOMIC EVALUATION OF DAPTOMYCIN AS FIRST-LINE THERAPY VERSUS DAPTOMYCIN AS RESCUE THERAPY AFTER VANCOMYCIN OR LINEZOLID FAILURE IN GRAM-POSITIVE BACTEREMIA TREATMENT

Lahoz R[1], Galera J[1], Font B[1], Gil Parrado S[1], Soengas C[1], Grau S[2]
[1]Novartis Pharma, Barcelona, Spain; [2]Hospital del Mar (IMIM), Barcelona, Spain

OBJECTIVES: To assess the efficiency of daptomycin as first-line therapy (D) versus daptomycin as rescue therapy after failure of vancomycin (V+D) or linezolid (L+D) in gram-positive bacteremia treatment. **METHODS:** A cost-effectiveness analysis comparing the three therapeutic alternatives (D, V+D and L+D) was performed using data from a previous observational study (EUCORE). In the present sub-study, data on 19 (D), 33 (V+D) and 19 (L+D) bacteremic patients were analyzed. Effectiveness was measured in terms of cure or clinical improvement. Costs were gathered from "BOT" and "e-salud" Spanish databases. Direct costs (medication and hospitalization) due to bacteremia were included. Costs are expressed in 2009 Euros. Patients were observed until either end of daptomycin therapy or exitus. a probabilistic multivariate sensitivity analysis was carried out. Dispersion was estimated using bootstrap (three alternative scenarios were considered in the simulations: 50%, 25% and 10% of the estimated dispersion) and Monte Carlo simulations were performed for both costs (log-normally distributed) and effectiveness (normally distributed) measures. **RESULTS:** Effectiveness figures: D: 84.2% (95%CI: 60.4%–96.6%); V+D: 87.9% (95%CI: 71.8%–96.6%); L+D: 68.4% (95% CI: 43.5%–87.4%); pvalue = 0.206 (Chi^2). Average costs per treated patient: D: €6672.8 (95%CI: 4076.8–9268.8); V+D: €9786.6 (95%CI: 7,124.7–12,448.5); L+D: €12,190.4 (95%CI: 8,693.2–15,687.7); pvalue < 0.001 (Kruskal-Wallis). Cost-Effectiveness Incremental Ratios: €53,478.8 (D versus V+D) and –€6,639.5 (D versus L+D) per additional cured patient. Sensitivity analysis results: D versus V+D: D is efficient with lower costs (in 41.2%–77.9% of the simulations) and dominant (22.1%–38.0%); D versus L+D: D is dominant (44.6%–99.6%) and efficient with lower costs (0.4%–30.0%). **CONCLUSIONS:** Daptomycin as first-line therapy is mainly a dominant alternative when compared to daptomycin as rescue therapy after linezolid failure, showing better clinical results with lower associated costs. Daptomycin as first-line therapy does not show significant differences in effectiveness when compared to daptomycin as rescue therapy after vancomycin failure, but it shows significantly lower costs.

PIN31

PHARMACOECONOMIC MODELING USING THE 13-VALENT PNEUMOCOCCAL CONJUGATE VACCINE IN GERMAN ADULTS

Claes C[1], Pletz MW[2], van der Linden M[3], Welte T[2], Graf von der Schulenburg J-M[1]
[1]Leibniz University of Hannover, Hannover, Germany; [2]Medical School Hannover (MHH), Hannover, Germany; [3]Universitaetsklinikum Aachen, Aachen, Germany

OBJECTIVES: Vaccination with the 23-valent pneumococcal polysaccharide vaccine (PPV23) is the current standard in Germany for diagnosis defined risk groups (age 5–59 years) and for seniors (≥60 years). a redefinition of this recommendation